## (19) World Intellectual Property Organization

International Bureau



# 525 259

# 

(43) International Publication Date 4 March 2004 (04.03.2004)

**PCT** 

### (10) International Publication Number WO 2004/018653 A1

(51) International Patent Classification7: 5/06, A61L 27/18, C12M 3/00

C12N 5/00,

(21) International Application Number:

PCT/GB2003/003558

- (22) International Filing Date: 14 August 2003 (14.08.2003)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 0219618.6

22 August 2002 (22.08.2002)

- (71) Applicant (for all designated States except US): BAT-TELLE MEMORIAL INSTITUTE [US/US]; 505 King Avenue, Columbus, OH 43201-2693 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): WAN, Margaret, Sin, Ka [GB/GB]; 20 Orchard Way, Kiddlington, Oxford, OX5 2JD (GB).
- Agents: BERESFORD, Keith, Denis, Lewis et al.; Beresford & Co., 2-5 Warwick Court, High Holborn, London WC1R 5DH (GB).

- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

#### Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: A METHOD OF AND APPARATUS FOR FACILITATING PROCESSES OF MAMMALIAN CELLS

(57) Abstract: A method of facilitating processes of mammalian cells such as at least one of attachment, movement, growth, proliferation and differentiation comprises: supplying liquid comprising biologically compatible polymer to a liquid outlet in the vicinity of a surface and subjecting liquid issuing from the outlet to an electric field to cause the liquid to form polymer fibre which is attracted to and deposits onto the substrate to form a polymer fibre scaffold having fibre of a given diameter with gaps between adjacent fibre portions; and applying mammalian cells to the fibre scaffold, wherein the gaps between the fibre portions and the fibre diameter have a size relative to a diameter of the mammalian cells such that cells grow or elongate preferentially along the fibre of the fibre scaffold. Apparatus for enabling carrying out of such a method is also described.

